DOCUMENT RESUME

ED 309 486 CS 506 737

AUTHOR Newhagen, John E.; Reeves, Byron
TITLE Emotion and Memory Responses for Negative Political Advertising: A Study of Television Commercials Used in the 1988 Presidential Election.
PUB DATE 10 Aug 89
NOTE 42p.; Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication (72nd, Washington, DC, August 10-13, 1989). Research supported by a grant from the National Advertising Research Project.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Communication Research; Higher Education; *Mass Media Role; Political Candidates; Political Influences; *Presidential Campaigns (United States); Recognition (Psychology); *Television Commercials
IDENTIFIERS *Advertising Effectiveness; *Political Advertising; Political Communication; *Political Rhetoric

ABSTRACT

A study tested the relationships between emotion in political television commercials, viewer memory, and evaluations of those advertisements. Subjects were in two groups, one of 31 undergraduates and one of 30 adults from the local community. Subjects in the first group were shown 34 different political ads followed by 28 30-second advertisements. Subjects in the second group were shown a videotape, given instructions and practice sessions, and asked to fill out a questionnaire before being shown a second videotape containing pictures and sound bites from the ads. Recognition of visual and audio information in 28 Bush-Dukakis commercials was generally quicker and more accurate for negative messages than for positive ads, or for ads that combined positive and negative information. There were three categories of messages: ads negative throughout, ads positive throughout, and ads that began negative and finished positive. In the case of negative and positive ads, ratings steadily increased during the first 20 seconds, peaked, and then declined for the remaining 10 seconds. Ratings for negative-positive ads began negative and ended positive, but never achieved the intensity of the other two categories. "Liking" during the last 10 seconds was negatively related to recognition memory for material in the commercials. (Three figures and two tables of data are included; 49 references are attached, as well as an appendix listing political ads used as stimulus material.) (KEH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED309486

Emotion and Memory Responses for Negative Political Advertising: A Study of Television Commercials Used in the 1988 Presidential Election

John E. Newhagen
Institute for Communication Research
Stanford University
Stanford, CA 94305-2050
415 324-4297

Byron Reeves
Institute for Communication Research
Stanford University
Stanford, CA 94305-2050
415 725-3033

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
John E. Newhagen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

August 10, 1989

CS506737

A Paper Presented to the Communication Theory and Methodology Division of the Association for Education in Journalism and Mass Communication

This research was supported by a grant from the National Political Advertising Research Project.

BEST COPY AVAILABLE

Abstract

Emotion and Memory Responses for Negative Political Advertising: A Study of Television Commercials Used in the 1988 Presidential Election

This study tested the relationships between emotion in political television commercials, and viewer memory and evaluations of those advertisements. Recognition of visual and audio information in 28 Bush-Dukakis commercials was generally quicker and more accurate for negative messages than for positive ads, or for ads that combined positive and negative information. There were three categories of messages: ads negative throughout, ads positive throughout, and ads that began negative and finished positive. In the case of negative and positive ads, ratings steadily increased during the first 20 secs, peaked, and then declined for the remaining 10 secs. Ratings for negative-positive ads began negative and ended positive, but never achieved the intensity of the other two categories. Liking during the last 10 seconds was negatively related to recognition memory for material in the commercials.

Emotion and Memory Responses for Negative Political Advertising: A Study of Television Commercials Used in the 1988 Presidential Election

If negative advertising does not work, its increasing use across the American political landscape would indeed be difficult to explain (see Nugent, 1987; Guskind & Hagstrom, 1988). During the 1988 Presidential campaign, for instance, viewers saw 30-second spots charging that Michael Dukakis was soft on criminals, allowed pollution to go unchecked, and was weak on national defense. There were images of criminals walking to freedom through penitentiary gates, disgusting pools of industrial pollution, and Dukakis smiling from the turret of an Army tank as it drove in circles around an open field. Late in the campaign, Dukakis countered with his own negative attacks on George Bush, and at one point tried to make the negative tone of the Bush campaign an issue itself.

Yet a review of research results casts doubt on the effectiveness of negative political advertising. Negative commercials can boomerang on the sponsor (Garramone, 1985; Shapiro & Rieger, 1989), and produce unstable attitude (Krugman, 1981). And correlations between attitude shift and memory are weak at best (see Rothschild, 1974; Petty, Cacioppo & Kramer, 1988).

Much of the work in negative political advertising is based on persuasion models using attitude as their independent variable and behavior change as their dependent variable (see Fishbein &

Ajzen, 1981, for a description of attitude-behavior persuasion models; and Berry, 1983, for a discussion of their limitations in communication research). Negativity has been defined in the jargon of media consultants, as a production technique or as an example of a particular genre of commercial advertising (Nugent, 1987). This study proposes to look within that genre and examine the advertisement themselves as the source of different emotions in the viewer, rather than some characteristic of the ad sponsor's verbal message.

The dependent variable of interest for a candidate is election day behavior, the vote. But no single exposure to a 30-sec political television spot per se was likely ever intended to sway many viewer's votes. Complex attitude structures associated with such behaviors as purchasing or voting are based on hundreds, if not thousands, of exposures to persuasive messages (Fazio, et al., 1986). This study proposes to investigate the relationship between emotion and memory for the ads as a fundamental first step to better understanding the complex attitude structures associated with the behavior of interest in politics, the vote.

Negativity and Political Advertising: An election can be thought of as a marketing campaign in which there are only two products, the candidates, with its advertising categorized according to the relationship between the ad sponsor and his or her opponent (Merritt, 1984). Three categories of negative advertising spring from this perspective:

- True negative, or attack ads, where an effort is made to diminish the image of the opponent through an outright attack, while the sponsor's image is not mentioned. Roddy and Garramone (1988), for instance, defined negative political advertising as attacks on opponents using a variety of accusations and innuendos about issue positions or personal character.

- Comparative ads, where an attempt is made to lessen the image of the opponent and promote a positive image of the sponsor as an alternative.

- What might be called negative "hope" ads, in which the sponsor is promoted as the solution to some problem or issue, such as drug abuse or inflation, without explicitly attacking the opponent.

A consequence of defining negativity in these terms, a tradition rooted in both the practice of American politics and social psychological models of attitude and behavior, is that little attempt has been made to describe theoretically the specific qualities of negative messages that distinguish their effects from other similar messages. An untested assumption implicit in this perspective is that somehow negativity gives messages power. A Democratic pollster reflected an intuitive understanding of the effectiveness of negative advertising when he commented about cost effectiveness in expensive urban television markets: people process negative information faster, with one or two exposures to a negative appeal as memorable as

five to 10 exposures to a positive appeal (Guskind & Hagstrom, 1988). Another professional consultant stated that negative advertising draws the viewer's attention, is easier to understand, and more memorable than its positive counterpart (Nugent, 1987).

These observations are quite consistent with evidence from recent experiments about the effects of emotional television messages on memory. Srull (1983, 1984) found positive emotion in commercials lead to elaborated semantic encoding of information, while negative affect corresponded to computational episodic encoding. Friestad and Thorson (1984) found "poignant" ads, ads with both a positive and negative component, to be better remembered than neutral commercials. Reeves et al. (1989) found negative public service announcements to be more memorable than positive announcements in a study similar in design to this one.

But what qualities of negativity empowers political television advertising? A clearer understanding of negativity can be found in an examination of concept's cognitive and affective components.

Two-Level Information Processing and Political Advertisements

Much of the work on political advertising focuses on candidate images and learning about campaign issues (Kaid, 1981; Patterson & McClure, 1976), rather than memory or other cognitive responses that are specific to the advertisements. Mitchell (1983) categorizes the processing of such high level features of

a commercial message such as a candidate's issue stands as "level one," or controlled verbal processing. Mitchell suggests the study of the viewer's attitude toward the ad (Aad, or Att, in the parlance of consumer research; see Lutz, 1985) as a mediating variable. Attitude toward the ad is defined as an affective feeling about the advertisement, with affect processed by the viewer by the "level two," or nonverbal channel.

Cacioppo and Petty (1986) call these two levels the central and peripheral routes to the processing of persuasive messages such as political ads. The central route is employed by highly involved message receivers, and includes a high degree of information elaboration and comparisons with prior knowledge. In the context of a persuasive television appeal, viewers employing the central route also manifest stable attitude structures about the attitude object promoted by the message (this corresponds to attitude toward the brand, or Att_b; see Hill & Mazis, 1986). In the case of political advertising, the attitude object, or brand, is the candidate.

Peripheral processing corresponds to the psychological heuristics used by low-involvement message receivers. It involves reliance on peripheral message features, such as affective cues in the speaker's facial expression, that are not intrinsic to the topic of the appeal. Attitude structures for viewers employing peripheral processing also are typically highly volatile.

Much work in political advertising casts the definition of

negativity at the level of an attribute associated with the topic of the candidates verbal appeal (Att_b). This by definition limits investigation to central level cues and excluding consideration of peripheral commercial-related cues (Att_a). Implicit in the depiction of the viewer in a central-level definition is a state of high attention, high involvement, and thoughtful consideration of the message topic (Krugman, 1986). It overlooks other attributes of the commercial on the viewer, such as color, music, pacing, cuts, facial expressions, or other formal non-verbal features of the television image (Donohew, Finn, & Christ, 1988). Lanzetta, et al. (1986) report, for instance, that exposure to images of then-President Reagan's smiling face increased subjects positive assessment for him, regardless of their prior political disposition. They maintain that repeated exposures to attractive facial displays should condition viewers to make positive emotional responses.

It is important to emphasize that, after a review of research in both political science and television viewing effects literatures, the idea of a highly motivated, highly knowledgeable, and attentive message receiver, implicitly suggested by topic-oriented definitions of negativity in political advertising, are precisely what is <u>not</u> anticipated. Quite the contrary, these literatures suggest most people employ a second, lower level of processing similar to that just described by the consumer advertising and social psychological models just described.

Processing Level and Political Science: A topic of concern in political science during the last several decades has been how the vast majority of citizens choose candidates based on scanty, poorly organized information. Converse (1964) described a "minimalist" view of political beliefs and identified two groups of citizens. Members of the first group are typically part of a highly involved and well educated elite, employing logic and ideology to organize their political attitudes. The second larger group represents average citizens whose knowledge of abstract ideas and political details is limited (Sniderman & Tetlock, 1986). Brady and Sniderman (1985) said that the less involved people in the second group use affect to guide attitude formation rather than logic guided by ideology. Fiske and Kinder (1981) describe political schema, or memory structures used to organize complex information. They see political elites as highly involved experts, organizing declarative and procedural knowledge into abstract schema. Low involvement people, on the other hand, use more consensual, simple schema that emphasize affect.

Processing Level and Television Viewing: Television viewing per se is a form of effortless vigilance, or low involvement monitoring, that does not include conscious, selective, or effortful attention (Krugman, 1986). Zillmann (1984) likewise depicts most people as low involvement viewers, who watch television to relax and achieve a state of mild arousal. Thus, political science and communication research suggest a powerful

match between television as a vehicle for emotional persuasion, and the levels of low information and involvement typical of people most likely to be watching. For these people, the potential for television to influence political decisions is large, because television is the major and often the sole source of political information (Chaffee, 1981).

Emotional Responses Within Negative Messages

When the label "negative" is used to categorize the topic of the advertisement by relationship between sponsor and opponent, it describes a level-one feature of the message. What such labeling fails to capture are other level two features of the message that might elicit emotions in the viewer.

Labels for political ads, like other television messages, are typically assigned with reference to an entire message. Most negative political commercials are 30 seconds long, regardless of the quality or sequencing of information within the message. Emotional responses, or even level-one responses, however, may occur in time periods that do not exactly overlap the boundaries of messages (Reeves, 1989). If emotion is defined as an action state residing in the organism, produced by a mismatch between its current goals and the environment (see Oatley & Johnson-Laird, 1987; Frijda, 1988), the traditional 30-second stimulus boundaries represented by the beginning and end of the spot are arbitrary. This could be the case for two of the three categories of negative political commercials previously

discussed, comparative and so-called positive negative ads and could include message features that evoke both positive and negative emotions.

Emotional responses, including psychological, physiological, and subjective changes, have been observed to cycle from activation to extinction in less than 15 seconds (Zajonc, 1984). Statistically significant differences in the on-line measurement of warmth in product advertising, for instance, were recorded across seven-second intervals (Aaker, Stayman, & Hagerty, 1986). Montague (1988) described how producers construct emotion sequences in so-called "get them sick, get them well" ads. The first half of the message is used to establish a negative emotion in association with some threat to the viewer. During the second half, the problem is resolved in conjunction with the activation of a positive emotion associated with the candidate.

These studies suggest a more detailed view of emotional complexity within a 30-second "spot." There are two consequences for research: (1) message segments should be categorized as to emotional content rather than categorizing entire messages; and (2) responses from individuals that are used to define messages should be assessed "on-line," so that responses that change during a single ad can be matched with corresponding message segments.

Peripheral Message Cues, Emotion of the Viewer, and Memory:

The psychophysiological emotional state of the viewer of a political advertisement, then, may be in large part determined by

features, such as music, the use of color, or cuts and pacing in the message stimulus that have little or nothing to do with its topic. The relationship between such emotion-eliciting stimulus features and memory have come to be the source of a good deal of research during the last decade (for reviews of research into the relation between emotion, mood, and memory in cognitive psychology see Blaney, 1986; Bower, 1987; Bower & Mayer, 1987).

All emotions are potentially relevant to encoding of television images by low-involvement viewers, but negative ones are the most psychologically compelling. Negative emotions are elicited by circumstances that demand action in the face of a threat (Frijda, 1988). Frijda described what he calls "hedonic asymmetry," a constant negative emotional pull interrupted only sporadically by extinguishable positive emotions. Positive emotional states are more ephemeral, tending to decay rapidly with their strength measured compared to previous states.

An important issue in the relationship between emotion and memory is the conceptualization of negativity. Is "negative" a single category or does it describe several different emotions? The relationship between cognition and emotion remains controversial (see Lazarus, 1984; Zajonc, 1984), but there is general agreement that there are about five to seven primary affective states, the majority of which are negative (see Ellis, Thomas, & Rodriguez, 1984; Lang, 1984; Lazarus, 1984; Zajonc, 1984; Muncy, 1986). Associated with each of these emotions is a unique affective "program," that includes psychological and

physiological changes in the organism (Lang, 1985). They include changes in cognitive capacity and information processing strategy, both of which could affect memory (Izard, Kagan, & Zajonc, 1984).

Conover & Feldman (1984) used a similar categorization to group political appeals into three negative emotions (fear, anger, disgust), and one positive emotion (hope). It is often the case, however, that these appeals are combined in a single message. Thus, messages whose central topic is negative can have at least three sets of peripheral emotion sequences embedded in them: (1) the true negative, or attack ad would be expected to have negative peripheral cues, represented by fear, disgust, or anger, embedded throughout the commercial; (2) comparative ads can be expected to begin with an attack on the sponsor's opponent in the context of one of the three negative emotions, and then suggesting its resolution on a positive, hopeful note in favor of the sponsor; (3) negative "hope" ads, represented by generally upbeat appeals, emphasize positive emotions.

This leads to the prediction that to the degree true negative, or attack advertising, frequently contains emotion-laden cues that enhance memory, such as the use of dark colors, or static camera techniques including closeup shots of threatening faces. From the point of view of commercial advertising, true negative commercials evoke in the viewer negative attitudes toward the competition's brand (Att_b), in this case the sponsor's opponent, as well as evoking negative emotions

resulting from peripheral message features (Att_e) that would enhance memory. The enhancement should be apparent both in the certainty about whether information was present, and for the immediacy of response.

This study examines memory for political advertisements used in the 1989 presidential campaign in terms of three negative emotions, and their combination with the positive emotion of hope. The previous discussion suggests two predications about that relationship between these emotions and memory:

(1) Memory and negative emotion will be correlated. Negative messages should elicit psychological states that enhance encoding and information processing. This should be reflected in a negative correlation between response latency and memory (the more negative the message, the quicker the recognition of information from the message), and a positive correlation with accuracy (the more negative the message, the more accurate the response).

(2) The boundaries of emotional content in advertisements will not necessarily correspond to the beginning and end of 30-second segments. This should be reflected by on-line rating scores for "liking" or "not liking" that change significantly within a message according to their emotional content. Changes should be especially apparent for comparative ads that begin negative and end positive.

Method

Overview. The design included four separate emotions attributed to political advertisements (fear, anger, disgust, and hope), liking for the advertisements, and the sequence of emotions in the message that resulted in three different message types (+ +, - -, - +). The dependent variables were accuracy of recognition (percentage of pictures and words from the target messages that could be identified), and latency to recognition (reaction time to identification of material from target messages). Recognition measures were repeated for visual and audio information.

The unit of analysis was political commercials. Two separate groups of individuals were used to assign each commercial values on emotion, liking, and memory. The first group evaluated each commercial on four emotions, and mean values across individuals were assigned. The second experimental group generated scores for liking and memory.

Subjects. For the first group, a total of 31 undergraduate students participated. They ranged from 19 to 22 years old, were evenly divided between men and women, and political participation. A total of 30 adults from the local community made up the second group, which participated in the experiment. They ranged in age from 19 to 69 years old, were equally divided between men and women, and political affiliation.

Stimulus Selection. Subjects in the first group (n=31) were shown 34 different political advertisements, 29 from the Bush-

Dukakis campaign and 5 from other recent Senatorial races.

Stimulus Preparation and Description. The three 25-minute stimulus tapes contained 28 30-sec advertisements, each followed by five seconds of video black. A brief description of the advertisements is in Appendix A. The order of presentation of the 28 advertisements was rotated in blocks across three different stimulus tapes.

Procedure. Subjects in the second group first read and signed a consent form and were then seated 6 feet from a television monitor. An experimenter briefly described the session and began a videotape. Instructions for the experiment appeared on the screen. People were told to pay attention to the program, and move the handle on a game paddle according to their liking for the material they viewed; left was for "like," right was for "don't like." They were instructed to give a general rating to what they watched, and not focus on any particular feature, such as the candidate or the issues discussed. A one-minute practice program followed. The instructions were then repeated, and viewing and data recording began.

At the end of the tape, an experimenter re-entered the room and administered a questionnaire. People were asked to write down information about their political party affiliation, how much attention they paid to the 1989 Presidential election, who they preferred, and if they voted. They also were asked their age, gender, and education. They were given five minutes to finish the questionnaire.

A second videotape was then shown that contained pictures and sound bites from the advertisements. Subjects were asked to press a "yes" button or a "no" button to indicate whether the material was from the messages they had viewed. There were three practice presentations and then a repeat of the instructions. A total of 112 one-sec video segments were shown without audio. Fifty-six of the segments were from the stimulus tape, one from the first half of each advertisement, and one from the second half. The remaining 56 were foils selected from other Bush-Dukakis advertisements not used in the stimulus tapes. There were 28 two-second sound segments for the audio recognition task. They were played without video over the television monitor speaker. The other 28 segments also were from other material.

At the end of the experiment, people were debriefed about the intent of the experiment and thanked.

Apparatus. All video presentations were played from 1/2" VHS tapes on a 19-inch color monitor. The stimulus sequence was connected to an IBM AT computer via a longitudinal time code output recorded on audio channel 2. The time code was read by a time code reader board in the computer. A preset time code selected to correspond to the beginning of each advertisement triggered a computer program that sampled liking scores at 11 three-second epochs. The last epoch ended three seconds after the end of the commercial. The data were generated by movement of the handle on the game paddle, and ranged from 5 for the extreme right hand position, 82 in the center, to 169 at the

extreme left.

For the recognition tape, data time codes were preselected and stored in a computer file to correspond to the onset of the video or audio segments. The file also included a code to indicate whether the material was in the stimulus tape or a foil. When the computer matched the time code on the video tape with the time code stored in the preset file, an internal clock in the computer started and ran until the subject depressed one of two buttons on the game paddle indicating the material was in the stimulus material or not. Reaction time (+ or - 1 msec) was recorded with the time code number that corresponded to the video frame that appeared when the tone began, along with a code to indicate if the selection was correct.

Messages Values. Values for the various variables were assigned to each message in the following manner:

(1) Emotion: Mean values determined by ratings recorded in the first group of subjects were assigned on anger, disgust, fear, and hope for the first and second half of each commercial.

(2) Liking: Eleven liking scores were assigned to each commercial corresponding to on-line ratings recorded every three seconds. Total liking for the commercial was computed as the mean of those 11 values.

(3) Recognition Accuracy and Latency: Mean visual latency in milliseconds was computed for recognition of two 1-sec video presentations, one sampled from the first half of each message, and the other sampled from the second half of the commercial.

Mean audio recognition in milliseconds was recorded for one 2-sec audio presentation from each commercial. Mean accuracy was measured for both audio and visual recognition using responses to the same presentations used in the latency tests. In the case of visual latency and accuracy, totals were computed by summing the mean values from the first and second presentations.

In addition, a variance score was assigned to each message for each of the memory variables. These values represented the homogeneity of responses to the messages across individuals.

Results

The dependent variable for this study was recognition memory, separated into accuracy and latency for both visual and audio information. Independent variables included emotional strength, liking, and message type. The analyses were divided into three parts: (1) the relationship between emotion and memory; (2) changes in "liking" as a function of message type and time; and (3) the relationship between liking and memory.

Emotion and Memory

Hierarchical regression was used for analysis of recognition latency, accuracy, and variance. For latency and accuracy, two blocks of independent variables were used. The block in the first equation consisted of mean scores computed from results for fear, anger, disgust, and hope ratings made by the first group of subjects for the first half of each commercial. The second

equation then included the ratings for the same four variables from the second half of each commercial. The four emotions were entered as blocks because they were highly collinear. For the regression equations using variance as the dependent variable, the mean value on which it was based was entered prior to the other two blocks of variables. This controlled for the correlation between the mean and variance ratings.

Recognition Memory: There were four results concerning emotional strength and memory: (1) the four emotions were highly collinear and could not be examined independently; (2) visual information from negative messages was recognized faster and with more accuracy than visual information from less negative messages; (3) there were different relationships, across all dependent variables, between memory, and emotion for the entire message, emotion in the first half of the message, and emotion in the second half; (4) strong negative messages produced less variance in visual and audio recognition accuracy than less negative messages.

Recognition Latency: Table 1 shows that, as predicted, the overall amount of negative emotion in both the beginning and end of commercials was negatively related to visual recognition latency ($R^2 = .54$; $df = 4,23$; $p < .05$); that is, greater negative emotion caused faster average responses in the recognition task. There were differences, however, when the prediction was separated between the two halves of the commercials. Emotion in the second half predicted latency for the first picture

(Increment to R^2 = .32; df 8,19; $p < .05$), and emotion in the first half predicted latency for the second picture (R^2 = .29; df 4,23; $p < .05$). There were no simultaneous relationships between emotion and memory, but rather proactive and retroactive effects. Audio recognition was not related to emotion.

Recognition Accuracy: Table 1 shows that, as predicted, the overall amount of negative emotion in both the beginning and end of commercials was positively related to visual recognition accuracy (R^2 = .51; df = 4,23; $p < .05$); that is, greater negative emotion was associated with more accurate memory. As with visual recognition latency, there were differences when the relationships were separated between the two halves of the commercials. Accuracy for the picture in the first half of the commercial was not related to emotion; however, accuracy for the picture in the second half of the commercial was related to emotion in the first half (R^2 = .37; df 4,23; $p < .05$), and emotion in the second half of the messages (Increment to R^2 = .32; df 8,19; $p < .01$). Audio accuracy was not related to emotion.

Recognition Latency and Accuracy Variance: The variance in audio and visual recognition latency was not related to emotion; however, variance was related to accuracy. Table 2 shows that emotion in the second half of the commercial predicted the variance in visual accuracy for both pictures (Increment to R^2 = .13; df 9,18; $p < .01$), and the variance in visual accuracy for the picture in the first half of commercials (Increment to R^2 =

.11; df 9,18; $p < .01$). The relationship was negative; the greater the negative emotion, the less variance in responses to the message. Audio accuracy variance, and emotion in the first half of commercials were similarly related (Increment to R^2 = .10; df 5,22; $p < .01$).

Summary of Recognition Latency and Accuracy Results: Results for recognition, accuracy, and variance all fit well within the framework of emotion as a primitive approach-avoidance response to novel stimuli in the environment. From this perspective, responding to negative stimuli faster, more accurately, and with less variance would be adaptive behavior from a survival standpoint.

It should be emphasized these are not responses solely to the candidate's verbal message, the topics of all commercials in this study were negative. The results described here relate to differences in color, camera technique, or other peripheral cues such as the facial expressions of actors, that evoked negative or positive emotion within the viewers. One example of the difference between central, topic related cues, and peripheral, message-related cues can be found in one commercial in particular. It featured an unseen narrator's ominous voice warning that a spreading plague of drug abuse threatened America's youth, and suggested a vote for Michael Dukakis as the only solution to stop it. The video portion of the commercial, however, showed soft colorful images of small children at play on a grassy play ground. While experimenters initially classified

this commercial as a fear appeal, due to the strength of the topic, both groups of subjects rated it as the most positive of the 28 commercials, apparently because of the strength of the non-verbal, peripheral cues.

Liking for Advertisements By Message Type

Liking scores provide a second assessment of the emotional content of the messages. While two scores were made by group one for each commercial, the second group of subjects rendered 11 liking scores across 3-sec epochs for each ad.

Figure 1 shows a significant main effect for epoch ($F = 2.9$; df 2; $p < .001$), and message type ($F = 41.2$; df 10; $p < .001$) on liking for the commercials. There were two more detailed results. First, the epoch-type interaction was significant ($F = 18.05$; df 20; $p < .001$). Liking ratings for "hope" and true negative advertisements were mirror images of each other, with absolute liking scores steadily increasing for about the first 20 seconds, where they peaked, and then retreating slightly. Subjects rated comparative commercials as expected, responding to negative material in the first half and to positive material in the second half. However, neither the rating for the negative material nor the positive material achieved the intensity of the other two commercial types.

Liking for the Advertisements and Memory

The zero-order correlation between liking for entire

commercials, and accuracy and latency was not significant. However, examining the correlations at each of the 11 3-sec epochs within the commercials did reveal a pattern.

Memory for Visual Material: Figure 2a shows that the correlation between visual recognition for the second picture and liking steadily increased over time, becoming statistically significant at epoch 7 ($r = .33$; $p < .01$), and epoch 8 ($r = .33$; $p < .01$). The relationship showed that greater liking resulted in poorer (i.e. slower) memory.

Figure 2b shows that the negative correlation between visual accuracy and liking for the second picture became statistically significant during epoch 6 ($r = -.33$; $p < .01$), epoch 7 ($r = -.36$; $p < .01$), epoch 8 ($r = -.37$; $p < .01$), and epoch 9 ($r = -.32$; $p < .01$). This means that greater liking resulted in poorer (i.e. less) accuracy.

Memory for Audio Material: Figure 3a shows that the correlation between latency to respond to audio material and liking was statistically significant during epoch 11 ($r = .49$; $p < .01$). As was the case with visual recognition, greater liking resulted in poorer memory and slower response times.

Figure 3b shows a negative correlation between accuracy in identifying material from the commercials and liking. Correlations steadily decrease and become statistically significant during epoch 10 ($r = -.39$; $p < .01$), and epoch 11 ($r = -.58$; $p < .01$). The negative correlation indicates that as liking increases, accuracy decreases.

Summary of Liking and Memory Results: Correlations between liking for the commercials and memory suggest very complex processing taking place in very brief periods of time. During the first 20 seconds of the commercials the steady increase in the negative relationship between memory and liking suggest increased arousal and biased associative encoding as a response to primitive features of the messages. Then, during the last 10 seconds, the decrease in the relationship between memory and liking indicate the stimulus appears to have lost novelty, with psychophysiological adjustments having been successful in reducing the mismatch between the internal state of the viewer and the environment.

Discussion

The primary research question in this study was whether negative advertising "worked." If success is defined as recognition memory, then negative advertising does increase both the accuracy and speed of visual recognition. However, if success is defined as "liking," negative advertising is judged less favorably than ads with at least some positive material. Given an additional speculation about the endurance of these effects -- namely, that the degree of "liking" may be forgotten while information is not -- negative advertising, in a practical sense, is probably a good bet. Kaid and Sanders (1978) reported just such a "sleeper effect" in their study of political advertising, where memory for a message persisted despite initial

negative ratings for its source. This suggests that, in large part, people's response that they do not like negative advertising is based on a level-one assessment of the nature of the topic-related features of the commercials. On the other hand, memory differences for the advertisements appear to be related to level-two features of the ads themselves that provoke psychophysiological changes in the viewer and lead to differential encoding of information in the messages.

Making the distinction that positive and negative affect are not symmetric (see Diener & Emmons, 1984) is important to an understanding of the differences in the marketing domains of politics and products. A positive political commercial is one that may offer hope in the face of adversity or praise past achievements. Rarely (especially in the 1988 Presidential campaign) do political ads use sentimental themes, as many product and service ads might. Conversely, level-one negative advertising is virtually absent from product campaigns, although there are similarities between negative political ads and PSA's that depend on fear to motivate changes in consumption or other health practices. The present results about negative political messages strengthens the conclusion that negative messages command attention and influence memory (Reeves, et al. 1989).

One explanation may be that focusing solely on hedonic valence overlooks approach or avoidance of a threat as the prepotent dimension of affect-laden political advertising. A second limitation that also stems from looking only at hedonic

valence when categorizing emotion-laden political appeals is the implicit suggestion of perfect symmetry between positive and negative affective states. Here again, adding the dimension of approach-avoidance allows for asymmetry among the emotions such advertisements evoke. These primitive orientations to negative emotion require immediate attention and enhance memory. And these reactions to television are fundamentally similar to any reaction to aversive stimuli or real-life situations that require withdrawal.

One of the goals of the present study was to differentiate forms of negative messages in relation to psychological evidence about emotions. To this end, three different negative categories were used in addition to one positive one. Although the categories could be distinguished conceptually, they cannot be separated empirically using subjective responses. All four of the emotions reduced to a single negative-positive continuum. However, this line of study ought not be abandoned. There is strong evidence that each of these emotions corresponds to unique psychological and physiological states that in turn affect not just the quantity of information but also the quality. It may be that further pursuit of these fine differences will lead to a deeper understanding of the link between emotion and differences in processing strategies.

Another theoretical premise of the study was that analysis of television commercials would benefit from examination of message segments, defined theoretically, rather than analysis of

intact messages that are defined by traditional industry boundaries. This resulted in obtaining emotion values for two halves of messages, and examining one variable, liking, over 11 3-sec epochs. Analyses that segmented messages in each case showed results that would not have been apparent if data were collapsed to conform with traditional message boundaries.

The unit of analysis in the study was messages or their parts rather than individuals. There were two unrelated but important implications of this decision. First, this focused conclusions on messages rather than message processors. Making this distinction explicit enhances the clarity of the concept of emotion as a psychophysiologic action state in people. It avoids the premise that somehow emotion resides in advertisements, rather than thinking of the message as a stimulus composed of various components such as music or color that might evoke an emotion in individuals. There could easily be a correlation between negative messages and memorable messages, but no correlation across individuals between the experience of an emotion and individual memory. A third concept, motivation, may yet have to be factored into this already complex equation to make that last leap to behavior (Hamilton, Bower, & Frijda, 1988).

Second, this decision to focus on messages allowed concentration on the executional characteristics of advertisements in relation to responses generated for each message, one at a time. It is important to remember, however,

that these messages are always part of a larger context -- a context that can be as important as the messages themselves. The importance of context was seen in two of the results. First, emotion in messages was a better predictor for visuals that occurred either before or after the emotion, than for visuals matched in time. Segmenting the commercials enabled examination of this result. However, there are also effects between messages, and between programs and commercials. It is difficult to imagine how a campaign planner could strategize about where a message is placed, since media buyers are often required to take whatever position a network or station provides them. However, prior information can be influential (Reeves, et al., 1989). It is important to remember that there is no requirement that people begin with a "neutral" emotion, as the experiment encouraged when people were asked to "center the joystick."

Table 1

Hierarchical Regression Analysis
of the Mean Level of Recognition Memory
for Television Political Commercials
By Four Emotions Present in the
First and Second Halves of the Messages
(N=28 commercials)[1]

Dependent Variables[3]	Equation 1[2] Emotion in first half R^2	Equation 2[2] Emotion in second half R^2	Increment R^2
Visual recognition			
RT picture #1	.21	.53*	.32*
RT picture #2	.29*	.34	.05
RT total	.30*	.54*	.24*
Visual accuracy			
Acc. picture #1	.21	.29	.08
Acc. picture #2	.33*	.65***	.32**
Acc. total	.37*	.51*	.14*
Audio recog RT	.13	.37	.24
Audio accuracy	.07	.27	.20

* p<.05
** p<.01
*** p<.001

[1] All values for the 28 commercials are mean scores calculated by averaging the responses across 30 individuals.

[2] Equation 1 represents the entry of four emotional attributes of the first half of the commercials (fear, anger, disgust and hope). Equation 2 uses the same attributes for the second half of the commercials.

[3] For the emotions fear, anger, and disgust, all relationships with latencies are negative (e.g. greater fear/faster recognition). Relationships with accuracy are positive (e.g. greater fear/greater accuracy). Relationships for hope are the opposite.

Table 2

Hierarchical Regression Analysis
of the Variance in Recognition Memory
for Television Political Commercials
By Four Emotional Attributes of the Messages
(N=28 commercials)[1]

Dependent Variables[3]	Equation 1[2] Mean level of memory R^2	Equation 2[2] Emotion in first half R^2	Incr. R^2	Equation 3[2] Emotion in second half R^2	Incr. R^2
Visual recog.					
RT picture #1	.64***	.67***	.03	.74***	.07
RT picture #2	.73***	.75***	.02	.79***	.04
RT total	.65***	.68***	.03	.73***	.05
Visual acc.					
Acc. picture #1	.75***	.77***	.02	.88***	.11**
Acc. picture #2	.54***	.58***	.04	.69**	.11
Acc. total	.71***	.74***	.03	.88***	.13**
Audio recog RT	.01	.08	.07	.20	.12
Audio accuracy	.38***	.48**	.10**	.52	.04

* p<.05
** p<.01
*** p<.001

[1] All values for the 28 commercials represent the variance in recognition memory calculated across 30 individuals.

[2] Equation 1 adds the mean memory score. Equation 2 adds four emotional attributes for the first half of commercials (fear, anger, disgust and hope). Equation 3 adds the same attributes for the second half of commercials.

[3] For the emotions fear, anger, and disgust, all relationships with latencies are negative (e.g. greater fear/less variance in memory). Relationships with accuracy are positive (e.g. greater fear/gareater accuracy). Relationships for hope are the opposite.

Figure 1

Amount of Liking for Three Types of Commercials Over Time

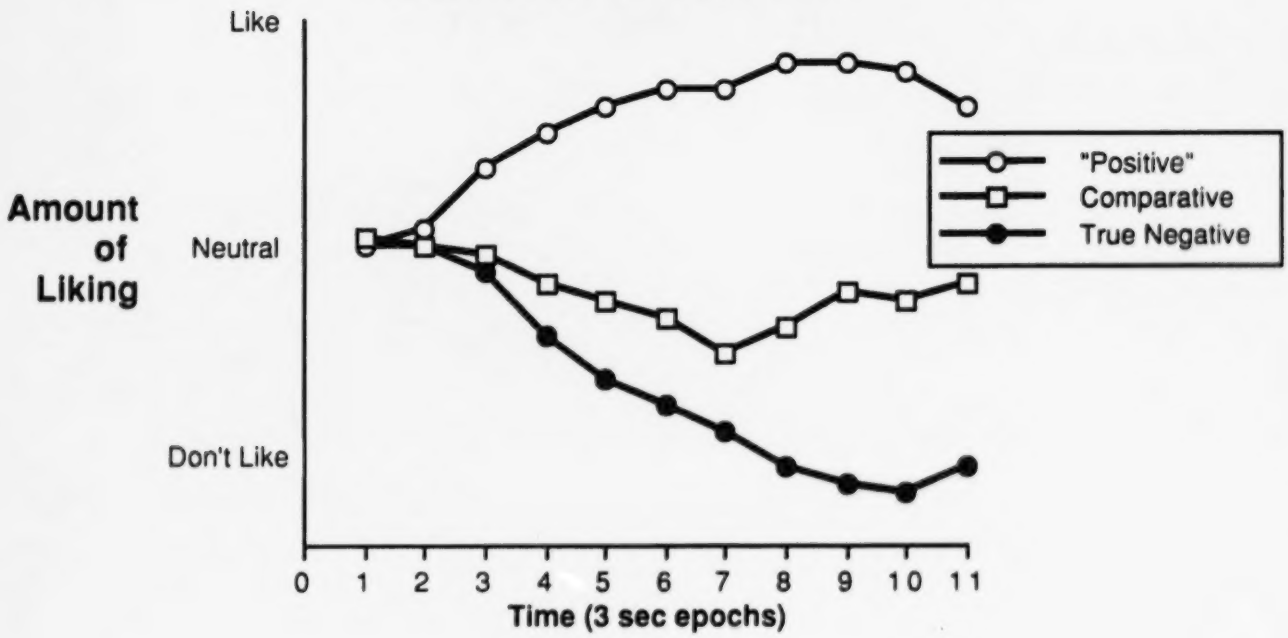


Figure 2

Zero-order Correlations Between Liking for Advertisements and Memory for Visual Material Over Time

Fig. 2a

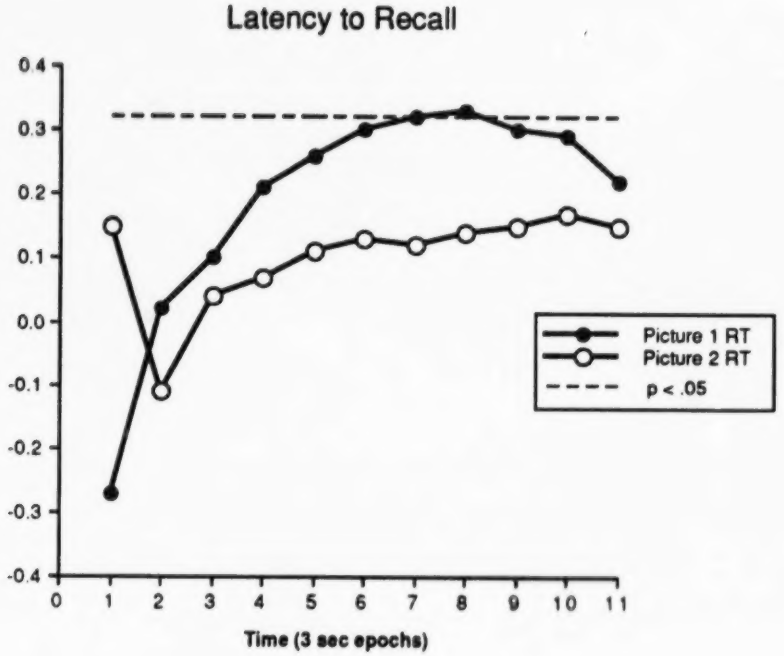


Fig. 2b

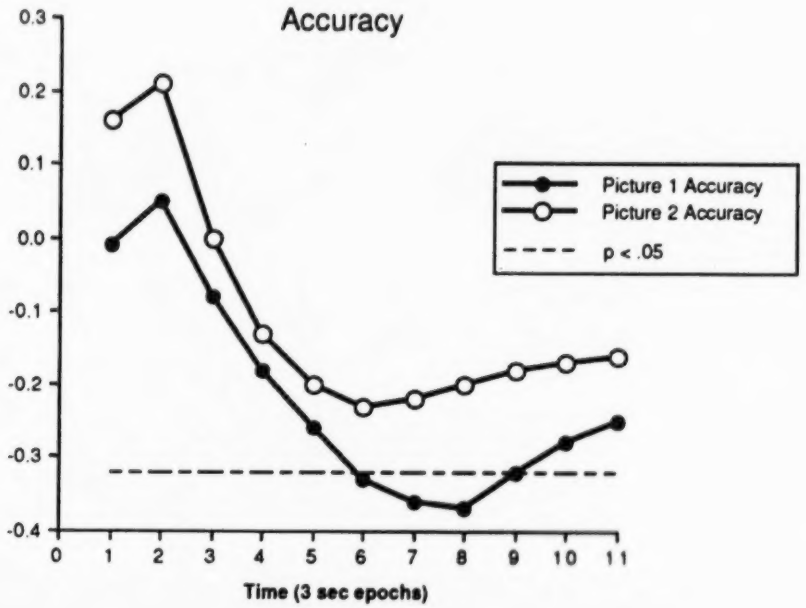


Figure 3

Zero-order Correlations Between Liking for Advertisements and Memory for Audio Material Over Time

Fig. 3a

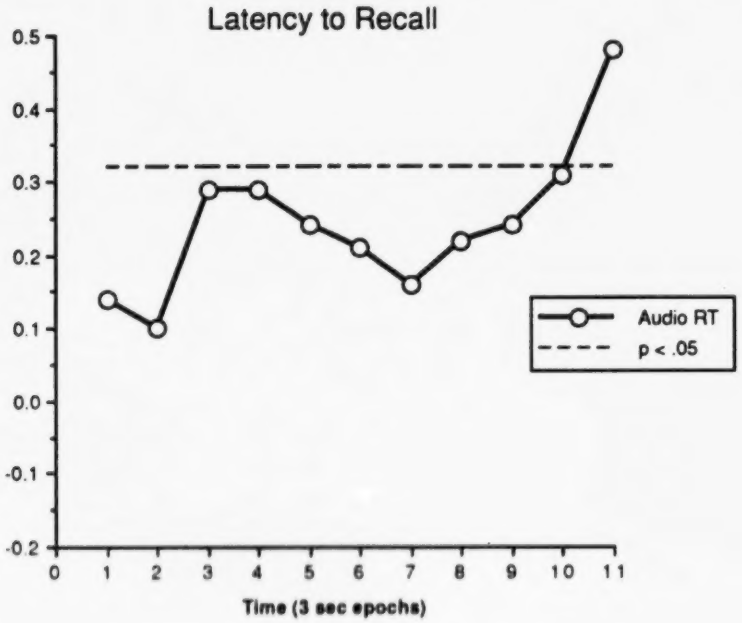
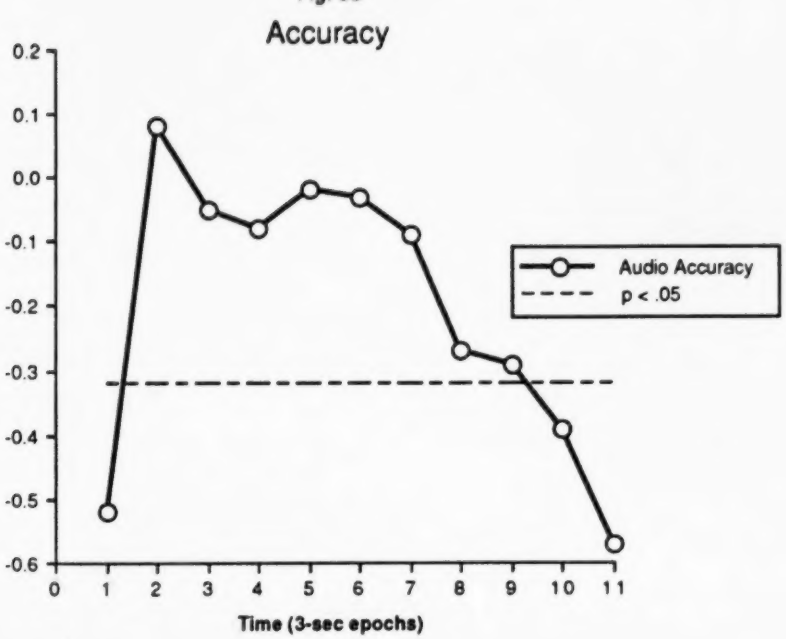


Fig. 3b



References

Aaker, D., Stayman, D., & Hagerty, M. (1986). Warmth in advertising: Measurement, impact, and sequence effects. Journal of Consumer Research, 12, 365-381.

Berry, C. (1983). Learning from television news: A critique of the research. Journal of Broadcasting, 24, 4, 359-370.

Blaney, P. (1986). Affect and memory: A review. Psychological Bulletin, 99, 2, 229-246.

Bower, G. & Mayer, J. (1987). In search of mood-dependent retrieval. Journal of Social Behavior and Personality. in press.

Bower, G. (1987). Commentary on mood and memory. Behavioral Research Theory, 25, 6, 443-455.

Brady, H. , & Sniderman, P. (1985). Attitude attribution: A group basis for political reasoning. American Political Science Review, 79, 1061-1078.

Cacioppo, J., & Petty, R. (1985). Central and Peripheral routes to persuasion: The role of message repetition. In L. Alwitt & A. Mitchell, (Eds.), Psychological processes and advertising effects. Hillsdale, NJ: Lawrence Erlbaum.

Chaffee, S. (1981). Mass media in political campaigns: An expanding role. In Rice, & Paisley, (Eds.), Public communication campaigns.

Conover, P., & Feldman, S. (1986). The role of inference in the perception of political candidates. In R. Lau, & D. Sears, (Eds.), The 19th annual Carnegie Symposium on Cognition: Political cognition, pp. 127-155. Hillsdale, NJ: Lawrence Erlbaum.

Converse, P. (1964). The nature of belief systems in mass publics. In D. Apter, (Ed.), Ideology and discontent. New York: The Free Press of Glencoe.

Diener, E., & Emmons, R. (1985). The independence of positive and negative affect. Journal of Personality and Social Psychology, 47, 5, 1105-1117.

Donohew, L., Finn, S., & Christ, W. (1988). "The nature of news" revisited: The roles of affect, schema, and cognition. In Lewis Donohew, Howard Sypher, & C. Troy Higgins, (Eds.), Communication, social cognition, and affect, pp. 195-218. Hillsdale, NJ: Lawrence Erlbaum Associates.

Ellis, D., Thomas, R., & Rodriguez, I. (1984). Emotional mood states and memory: Elaborative encoding, semantic processing, and cognitive effort. Journal of Experimental Psychology: Learning, Memory, and Cognition, 10, 3, 470-482.

Fazio, R., Sanbonmatsu, D., Powell, M., & Kardes, F. (1986). On the automatic activation of attitudes. Journal of Personality and Social Psychology, 50, 2, 229-238.

Fewer Americans (March 13, 1989). Fewer Americans are Voting. San Francisco Chronicle.

Fishbein, M., & Ajzen, I. (1981). Acceptance, yielding, and impact: Cognitive processes in persuasion. In R. Petty, T. Ostrom, & Brock, (Eds.), Cognitive responses in persuasion. Hillsdale, NJ: Lawrence Erlbaum Associates.

Fiske, S., & Kinder, D. (1981). Involvement, expertise, and schema use: Evidence from political cognition. In Cantor, & Kihlstrom, (Eds.), Personality, cognition, and social interaction, pp. 171-187. Hillsdale, NJ: Lawrence Erlbaum.

Friestad, M., & Thorson, E. (1984). The role of emotion in memory for television commercials. A paper presented to the Mass Communication Division of the International Communication Association, May, 1975.

Frijda, N. (1988). The laws of emotion. American Psychologist, 43, 5, 349-358.

Garramone, G. (1985). Effects of negative political advertising: The roles of sponsor and rebuttal. Journal of Broadcasting and Electronics Media, 29, 2, 147-159.

Guskind, R., & Hagstrom, J. (1988). In the gutter. National Journal, 2782-2790.

Hamilton, V., Bower, G., & Frijda, N. (1988). Cognitive perspectives on emotion and motivation. Boston, MA: Kluwer Academic Publishers.

Hill, R., & Mazis, M. (1986). Measuring emotional responses to advertising. In R. Lutz, (Ed.), Advanced in Consumer Research Vol. XIII. Provo, UT: Association for Consumer Research.

Izard, C., Kagan, J., & Zajonc, R. (1984). Emotions, cognition and behavior. Cambridge: Cambridge University Press.

Kaid, L., & Sanders, K. (1978). Political television commercials: An experimental study of type and length. Communication Research, 5, 1, 57-70.

Kaid, L. (1981). Political advertising. In D. Nimmo, & K. Sanders, (Eds.), Handbook of political communication. Beverly Hill, CA: Sage Publishing.

Krugman, H. (1981). The impact of television advertising: Learning without involvement. In M. Janowitz, & P. Hirsch, (Eds.), Reader in public opinion and mass communication, pp. 403-408. New York: The Free Press.

Krugman, H. (1986). Low recall and high recognition of advertising. Journal of Advertising Research, Feb./Mar., 79-86.

Lang, P. (1985). The cognitive psychophysiology of emotion: Fear and anxiety. In A. Tuma, & J. Maser, (Eds.), Anxiety and the anxiety disorders. Hillsdale, NJ: Lawrence Erlbaum Associates.

Lanzetta, J., Sullivan, D., Masters, R., & McHugo, G. (1985). Emotional and cognitive responses to televised images of political leaders. In S. Draus, & R. Perloff, (Eds.), Mass Media and political thought: An information processing approach. Beverly Hills, CA: Sage Publishing.

Lazarus, R. (1984). On the primacy of cognition. American Psychologist, 39, 2. , pp. 124-129.

Lutz, R. (1985). Affective and cognitive antecedents of attitude toward the ad: A conceptual framework. In L. Alwitt, & A. Mitchell, (Eds.), Psychological processes and advertising effects: Theory, research, and applications, pp. 45-63. Hillsdale, NJ: Lawrence Erlbaum Associates.

Merritt, S. (1984). Negative political advertising: Some empirical findings. Journal of Advertising, 13, 3, 27-38.

Mitchell, A. (1983). Cognitive processes initiated by exposure to advertising. In Richard Harris, (Ed.), Information processing research in advertising, pp. 13-42. Hillsdale, NJ: Lawrence Erlbaum Associates.

Montague, K. (1988). Schools of media consulting: Emotional, new informational and quick response thinking in the eighties: An elite study. A paper presented to the International Communication Association Annual Convention, New Orleans, LA.
Muncy, J. (1986). Affect and cognition: A closer look at two competing theories. In Richard Lutz, (Ed.), Advances in Consumer Research Vol. XIII. Provo, UT: Association for Consumer Research.

Nugent, J. (1987). Positively negative. Campaigns and Elections, 7, 6, 47-49.

Oatley, K. , & Johnson-Laird, P. (1987). Towards a cognitive theory of emotions. Cognition and emotion, 1, 1, 29-50.

Patterson, T., & McClure, R. (1976). The unseeing eye. New York: Putnam.

Petty, R., & Cacioppo, J. (1986). Communication and persuasion: Central and peripheral routes to attitude change. New York: Springer/Verlag.

Reeves, B. (1989). Theories about news and theories about cognition: Arguments for a more radical separation. American Behavioral Scientist, July.

Reeves, B., Newhagen, J., Maibach, E., Basil, M., & Kurz, K. (1989). Negative and positive television messages: Effects of message type and message context on attention and memory. A paper presented to the International Communication Association annual convention, San Francisco, CA.

Roberts, D., & Maccoby, N. (1973). Information processing and persuasion: Counter arguing behavior. In P. Clarke, (Ed.), New models for communication research. Beverly Hills, CA: Sage Publications.

Roddy, B., & Garramone, G. (1988). Negative political advertising: Appeals and strategies. A paper presented to the International Communication Association, New Orleans, LA.

Rothschild, M. (1974). The effects of political advertising on the voting behavior of low involvement electorate. Unpublished Doctoral dissertation, Stanford University.

Shapiro, M., & Rieger, R. (1989). Comparing positive and negative political advertising. A paper presented to the Political Communication Division of the International Communication Association, San Francisco, CA.

Sniderman, P. & Tetlock, P., & Tetlock, P. (1986). Public opinion and political ideology. In M. Hermann, (Ed.), Political Psychology, pp. 64-72. San Francisco: Jossey-Bass.

Srull, T. (1983). Affect and memory: The impact of affective reactions in advertising on the representation of product information in memory. Advances in consumer research, (Vol. X), pp. 520-525. Provo, UT: Association for Consumer Research.

Zajonc, R. B. (1984). On the primacy of affect. American Psychologist, 39, 2, 117-123.

Zillmann, D. (1984). Connections between sex and aggression. Hillsdale, NJ: Lawrence Erlbaum Associates.

Appendix A

Political Advertisements from the 1988 Preidential Campaign Used as Stimulus Material

Title	Sponsor	Emotions	Content
California Environment	Bush	- -	Attack on Dukakis environmental record
Promises	Bush	- -	Don't trust Dukakis record on crime
Dead Wrong	Dukakis	- +	Dukakis talks tough on drugs
Truth	Bush	- -	Bush talks about Democratic failures
Harbor	Bush	- -	Attack on Dukakis failure to clean Boston harbor
Keep Amer. Working	Bush	+ +	Bush talking head on good economy
Remember	Dukakis	- -	Dramatization of Bush's backroom handlers plotting
His Mistakes	Bush	- -	Boston street corner interviews on Dukakis failures
Jimmy	Dukakis	+ +	Dramatization of youth working in a pizza parlor rather than attending college
Bay	Dukakis	- -	Response to Bush environmental charges
Tax Blizzard	Bush	- -	Dramatization of couple receiving tax bills due to Dukakis increases
Failed	Dukakis	- -	Dukakis attack on Bush environmental record

Appendix A (Cont.)

Political Advertisements from the 1988 Presidential Campaign Used as Stimulus Material

Title	Sponsor	Emotions	Content
Gorbachev	Bush	+ +	Pictures of Bush with world leaders
Crunch	Dukakis	- -	Attack on Bush Social Security Policy
Oval Office	Dukakis	- -	Zoom on the Oval Office with warning Quayle might be President
Tank	Bush	- -	Attack on Dukakis defense record, showing Dukakis on top of a tank
In Charge	Dukakis	+ +	Speech on trade and other issues
Blackboard	Dukakis	- +	Attack on Bush education policy, pitch for Dukakis
The Quiz	Bush	- -	Attack on Dukakis crime record
Chairman	Dukakis	- -	Attack on Bush record as drug chairman
Two Paychecks	Dukakis	+ +	Dramatization of a young couple struggling to pay the bill at a checkout stand
America Workmanship	Dukakis	+ +	Shows American factory workers with promise for strong economy
Your Own Mind	Bush	- -	Bush attack on Dukakis crime record

Appendix A (Cont.)

Political Advertisements from the 1988 Presidential Campaign Used as Stimulus Material

Title	Sponsor	Emotions	Content
Furlough from the Truth	Dukakis	- -	Dukakis charge that Bush also had a past with a prison furlough program
Elderly Care	Dukakis	- -	Elderly couple at a bus stop with Dukakis promise not to cut Social Sec.
Revolving Door	Bush	- -	Prisoners walk from prison gates while Dukakis furlough of a murderer is attacked
Effort	Dukakis	- -	Attack on Reagan-Bush failure to control drugs
Drugs	Dukakis	+ +	Pictures of kids playing while drug control is discussed